SECTION 593 WATER RESOURCES DEVELOPMENT ACT

DRAFT
ENVIRONMENTAL ASSESSMENT

for the

BLACK MESA STORMWATER DRAINAGE IMPROVEMENT PROJECT BERNALILLO COUNTY, NEW MEXICO

Prepared by

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Finding of No Significant Impact
Section 593 Water Resources Development Act
Black Mesa Stormwater Drainage Improvement Project
Bernalillo County, New Mexico

The U.S. Army Corps of Engineers (Corps), Albuquerque District, in cooperation with a and at the request of Bernalillo County, New Mexico and the Albuquerque Metro Area Flood Control Association (AMAFCA), is planning a project that would improve stormwater drainage and reduce the potential for flooding within the Black Mesa project area, which is located in Bernalillo County, just south of the Albuquerque City limits. The construction work would be conducted under Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 *et seq.*), as amended. The Act authorizes the Corps to provide assistance for design and construction for water-related environmental infrastructure and resource protection and development projects in central New Mexico. Bernalillo County and AMAFCA are the local sponsors. The proposed construction would be the first of a two-phase stormwater drainage improvement project. The duration of the proposed construction would be nine months and is expected to start in the fall of 2006.

The purpose of the proposed project is to improve stormwater drainage and reduce flood damages in the southern portion of the Southwest Valley between Rio Bravo Boulevard and Raymac Road. This would be accomplished by collecting and conveying flood flows originated on the West Mesa through the Valley to an outlet structure within the riparian area, on the west bank of the Rio Grande. The facilities needed for this project will be constructed within the existing right of way owned by Bernalillo County, AMAFCA, or the Middle Rio Grande Conservancy District (MRGCD).

Three prehistoric archaeological sites (LA19244, LA50273, LA74755) and one historic earthen ditch structure (LA145560) occur in the immediate vicinity of the Black Mesa project's pipeline alignment. All four archaeological sites are potentially or have been previously determined to be eligible for nomination to the National Register of Historic Places. All four archaeological sites have been previously disturbed to unknown extents. Due to the proximity of the three prehistoric sites to the project area, the Corps plans to conduct archaeological monitoring at these locations during construction. It is anticipated that the pipeline project would have no adverse effect to these three prehistoric sites. The pipeline alignment crosses LA145560 diagonally; however, pipeline installation is considered to have a negligible effect on the earthen ditch and therefore no adverse effect. Archaeological monitoring is not planned for the LA145560 location.

The proposed pipeline will cross several segments of the Middle Rio Grande Conservancy District's acequia and drain system; specifically the Gun Club Lateral, Isleta Drain, Arenal Main Canal, Los Padillas Drain, Pajarito Ditch, Los Padillas (Acequia) Ditch, and the Atrisco Riverside Drain. While the MRGCD irrigation system and its acequia and drain components are considered to be historic, they are rigorously maintained and rehabilitated, and therefore, are essentially modern facilities. The pipeline construction easement is relatively narrow and crosses these acequias and drains in areas that have been significantly disturbed by previous earth moving activities. The proposed project would not affect any significant MRGCD historic structures and therefore, there would be no adverse effect to the MRGCD system.

Upon further investigation, the project area may be considered as eligible for nomination to the National Register as a rural historic landscape. The proposed project would not affect the local landscape. Therefore, there would be "No Adverse Effect to Historic Properties" by the Black Mesa 593 pipeline project.

The potential effects of the proposed action are similar to the No-Action alternative, with the caveat that the No-Action alternative would result in further stormwater drainage problems in the Southwest Valley.

The proposed project is regulated under the provisions of Section 404 of the Clean Water Act (CWA) and a Department of the Army authorization would be required for the proposed action. Prior to construction, a Department of the Army permit would be obtained. Section 401 of the CWA does apply to this project, as there would be discharge associated with construction activities or other disturbance within waterways. A Water Quality Certification Permit would be obtained prior to any proposed work. The majority of the proposed project area is not located within any special flood hazard areas inundated by the 100-year flood. The proposed location for the outlet pipe does lie within the Bosque, which is within the flood plain. The outlet structure would consist of a 32' x 16' concrete pad with five feet of 60-inch RCP coming from the ground. The outlet structure is minor in size and would not constitute any alterations within the historical flood plain and would have no new impacts to the historical or current flood plains. Therefore, the planned action is consistent with Executive Order 11988 (Floodplain Management). The proposed work complies with Executive Order 11990 (Protection of Wetlands) as no wetlands are within the project area.

Because the Bald Eagle may fly over the construction area and/or perch in trees onsite, the determination has been made that the proposed project "may affect, is not likely to adversely affect" the Bald Eagle. However, any potential effects to the eagle would be insignificant and discountable due to the implementation of conservation measures as part of the proposed project. These measures include making efforts to schedule all work outside of the Bald Eagle high use months of December, January, and February. If a Bald Eagle is present within 0.25 mile of the construction sites in the morning before project activity starts, or following breaks in work, the contractor would be required to suspend all activity until the bird leaves of its own volition, or a Corps biologist, in consultation with the U.S. Fish and Wildlife Service, determines that the potential for harassment is minimal. However, if an Eagle arrives during construction activities, or if an Eagle is beyond 0.25 mile of the site, construction would not be interrupted. If Bald Eagles were found consistently in the immediate project areas during the construction period, the Corps would contact the U.S. Fish and Wildlife Service to determine whether formal consultation under the Endangered Species Act is necessary.

The additional water provided by the outlet pipe would be beneficial to the vegetation within this area and could produce more habitat for the Southwestern Willow Flycatcher. Beneficial impacts to the above species are expected from the proposed project.

Stormwater return to the Rio Grande would be further upstream than the current discharge point and would therefore be beneficial to the Rio Grande Silvery Minnow. Only beneficial impacts to the above species are expected from the proposed project.

Only short-term negligible adverse impacts to land use, aesthetics, soils, air, noise, vegetation, and wildlife, would occur during construction. No impacts would occur to land use (long-term), climate, soils (long-term), air (long-term), wetlands or other waters of the U.S., floodplains, socioeconomics, or cultural resources. No impacts would occur to any special status species, except for potential effects to the Bald Eagle. Environmental justice would be impacted beneficially, although not to a level of significance, and would be long-lasting. The proposed project would not result in any moderate or significant, short-term, long-term, or cumulative adverse effects, and, therefore, is recommended.

The planned action has been fully coordinated with federal, state, tribal, and local agencies with jurisdiction over the ecological, cultural, and hydrological resources of the project area. Based upon these factors and others discussed in detail in the Environmental Assessment, the planned action would not have a significant effect on the human environment. Therefore, an Environment Impact Statement will not be prepared for the proposed Black Mesa stormwater drainage improvements.

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Date

Bruce Estok
Lieutenant Colonel, U.S. Army
District Engineer

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1.0 INTRODUCTION

1.1 Background and Location

The United States Army Corps of Engineers (USACE), Albuquerque District, in cooperation with and at the request of Bernalillo County, New Mexico, and the Albuquerque Metro Area Flood Control Association (AMAFCA), is planning a project that would improve stormwater drainage and reduce the potential for flooding within the Black Mesa project area, which is located in Bernalillo County, just south of the Albuquerque City limits.

The rehabilitation work would be conducted under Section 593 of the Water Resources Development Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 et seq.), as amended. The Act authorizes the United States Army Corps of Engineers to provide assistance in the form of design and construction for water-related environmental infrastructure, resource protection, and development projects in central New Mexico, which is defined within the Act as the counties of Bernalillo, Sandoval, and Valencia. Types of projects included under the Act are: wastewater treatment and related facilities, stormwater retention and remediation, environmental restoration, and surface water resource protection and development.

Provisions under the Act require that the project be publicly owned to receive Federal assistance. As such, the non-Federal project sponsor for the proposed project is Bernalillo County, New Mexico and AMAFCA. The Act further requires that a cooperative agreement be established between the Federal and non-Federal interests. In general, the Federal share of project costs under each cooperative agreement is 75 percent of the total project costs.

The Black Mesa project site is located in Bernalillo County, just south of the Albuquerque City limits (see Figure 1). The proposed project area is bounded by Don Felipe Boulevard to the north, the Rio Grande to the east, Los Padillas Road to the south, and the area generally bounded by the following facilities to the west: Don Felipe Dam, Raymac Dam, and McCoy Dam (see Figure 2). The duration of the proposed construction would be nine months and is expected to start in the fall of 2006.

1.2 Purpose and Need

The southwest valley area is very vulnerable to flooding caused primarily by runoff from intense local thunderstorms. Currently, three existing AMAFCA Dams intercept stormwater runoff from mesa areas that would otherwise drain into the southwest valley of Albuquerque from the west. The purpose of these dams is to reduce the threat of flooding in this area. The three existing dams are Don Felipe, Raymac and Mc Coy. After intense local thunderstorms, the dams have been insufficient in carrying away enough water to avoid flooding problems. The water from these storms collects in lower areas within the valley prior to reaching the Rio Grande. Residents and businesses in this area have experienced flooding to their properties after these intense thunderstorms. Although the exiting dams have provided some flood control, other structures are needed to improve stormwater drainage within the southwest valley.

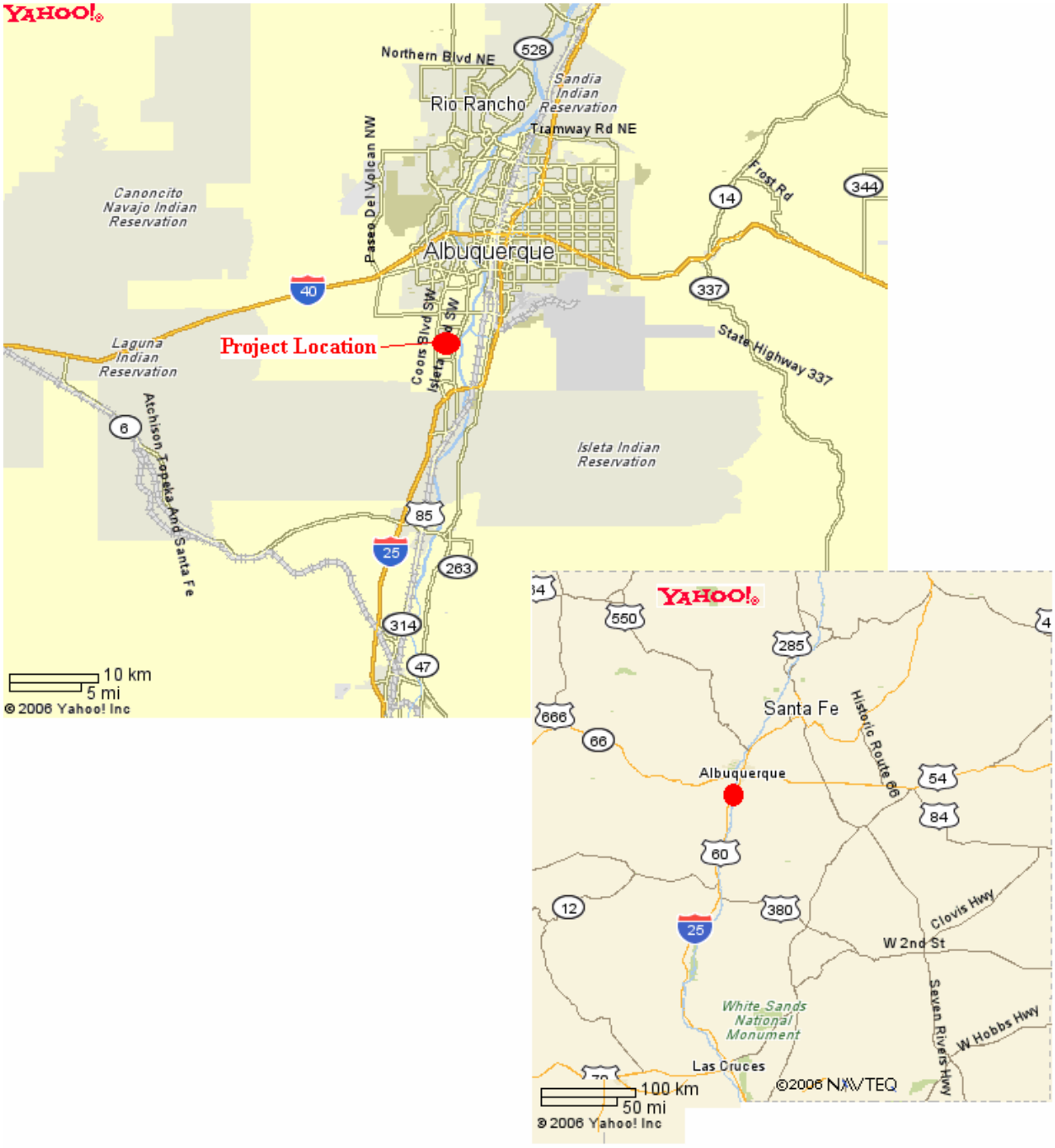

Figure 1. Location of Proposed Project Area for the Black Mesa Stormwater Drainage Improvements, Southwest Valley, Bernalillo County, New Mexico.

1.3 Regulatory Compliance

This Draft Environmental Assessment (DEA) was prepared by the U.S. Army Corps of Engineers, Albuquerque District, in compliance with all applicable Federal Statutes, Regulations, and Executive Orders, including the following:

- Archaeological Resources Protection Act of 1979 (16 U.S.C. 470)
- Clean Water Act of 1972 and Amendments of 1977(CWA)
- Clean Air Act of 1972, as amended (42 U.S.C. 7401 *et seq.*)
- Endangered Species Act of 1973, (ESA) as amended (16 U.S.C. 1531 *et seq.*)
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, 1994
- Floodplain Management (Executive Order 11988)
- National Environmental Policy Act of 1969, as amended (42 U.S.C 4321 *et seq.*)
- Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500 *et seq.*)
- National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 *et seq.*)
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001 *et seq.*)
- Protection and Enhancement of the Cultural Environment (Executive Order 11593)
- Protection of Wetlands (Executive Order 11990)
- U.S. Army Corps of Engineers' Procedures for Implementing NEPA (33 CFR 230) ER 200-2-2
- Farmland Protection Policy Act of 1981, as amended (7 U.S.C. 4201 *et seq.*)

This DEA also reflects compliance with all applicable State of New Mexico and local regulations, statutes, policies, and standards for conserving the environment such as water and air quality, endangered plants and animals, and cultural resources.

1.4 Scoping and Issues

Scoping for this EA is based on potential issues at the proposed project site. They include best management practices, water quality, vegetation and wildlife. Appendix C contains a copy of the scoping letter, dated September 2, 2003, submitted to the government agencies.

2.0 PROPOSED ACTION AND ALTERNATIVES

All Federal agencies that assist or take part in projects that utilize public funding are mandated by the National Environmental Policy Act (NEPA) to evaluate alternative courses of action. Typically, alternatives are a set of different locations that satisfy certain defined project criterion. However, alternatives can also include design considerations and/or attributes that may mitigate or reduce impacts generated by a given action. In general, alternatives, including a No-Action alternative, can provide decision makers with an evaluation on the present and future conditions with regard to the implementation of an action at a given site, time, or including particular design characteristics. Information and knowledge yielded from *alternative* evaluations can then guide decision-making processes such that they are made in the best interest

of the public and environment.

2.1 Proposed Action

The purpose of this project is to improve stormwater drainage in the southern portion of the southwest valley between Rio Bravo Boulevard and Raymac Road (See Figure 2). The proposed work would include the construction of an outlet pipe manifold to collect stormwater flows from three existing Albuquerque Metro Area Flood Control Authority (AMAFCA) dams: Don Felipe, Raymac and Mc Coy. Flow from these dams would be controlled by means of an orifice plate that would be attached to each dam's outlet control structure. Pipes would be placed underground from each dam and connected by a 42-inch pipe that would run along the west side of Coors Boulevard. From this manifold pipe, a 54-inch RCP outlet pipe would be placed east along Raymac Road along the center of the street and continue towards the Rio Grande. This outlet pipe would be located along the center of Raymac Road because existing utilities are located on each side of the street. An outlet structure would be constructed within the Rio Grande Bosque where a duck-billed outlet would be placed at the end of the outlet pipe. This device would be needed on the end of the pipe to reduce the velocity of the water. In addition, this structure would allow the water to be dispersed naturally through the riparian area, on the west bank of the river. Some minor excavation may be required in order to direct the water into an existing channel before entering the Rio Grande. Erosion to the bank of the river would be avoided by using the existing channel transport the water from the outlet pipe. This location with the Bosque has been identified as a proposed restoration site. Restoration would not occur as a part of this project, but is being considered within the Corps' Middle Rio Grande Bosque Feasibility Study. The duration of the proposed construction would be nine months and is expected to start in the fall of 2006.

Traffic on Coors Boulevard would require a minimal diversion as work is occurring on the west side of the street. Construction on Raymac Road would require that one block at a time be shut down. However, the road would be open to residents in the area. Construction on Isleta Boulevard would require a diverted lane during construction. All changes made to traffic in this area would require approval of a traffic control plan from Bernalillo County and the New Mexico Department of Transportation. The total estimated construction cost for this proposed project is $3.5 million. The non-Federal cost share is approximately $875,000. The Federal cost share is approximately $2,625,000.

The proposed work would utilize appropriate Best Management Practices to reduce the quantities of pollutants. Construction access would be from existing paved roads within the project area. All staging areas, including the stockpiling of construction materials, and equipment not in operation, would be above the 100-year floodplain.

Fuel, oil, hydraulic fluids and other similar substances would be appropriately stored out of the floodplain and must have a secondary containment system to prevent spills if the primary storage container leaks. Appropriate erosion control measure would be utilized to prevent surface water drainage and erosion material from leaving the construction areas. Water dispersal equipment would be used to minimize dust during construction activities. Best management practices would be implemented regarding the treatment and disposal of waste material. All waste material would be disposed properly at commercial disposal areas or landfills. Activities

would be limited to the designated or otherwise approved areas and would be shown on the construction drawings for construction areas, staging access, and borrow use. Corps' approval of these areas would be required regardless of their ownership or distance to the construction sites to ensure protection of vegetation, water quality, threatened and endangered species, cultural resources and other significant resources. The Corps' Contracting Officer will coordinate with the Corps Environmental Resources Section to approve any changes in access routes, noncommercial borrow sites, staging areas, and other high-use areas.

The contract specifications for construction of this proposed project would require avoiding damage, where practicable, to vegetation. Disturbed areas would be evaluated for reseeding with native, indigenous plants, insofar as contract activities result in noticeable damage to existing plants and vegetative ground cover. The construction contractor would be required to submit an Environmental Protection Plan acknowledging and incorporating these protection

2.2 The No-Action Alternative

Under the No-Action Alternative, there would not be any construction or modification to the stormwater reduction structures. No federal funding would be expended and there would be no new effects to the project site or surrounding environment. Drainage in proposed construction areas would not improve.

3.0 EXISTING ENVIRONMENT AND FORESEEABLE EFFECTS

3.1 Physical Resources

3.1.1 Physiography, Geology and Soils

The proposed project is in the Middle Rio Grande Valley, a wide floodplain of fertile bottomland (USDA 2006). These fertile soils and shallow water tables support vegetation as well as a variety of resident and migratory wildlife. The Rio Grande Valley is a productive agricultural area that contributes to the quality of life and economies of the urban areas of Albuquerque, Rio Rancho, Bosque Farms, Los Lunas and Belen, New Mexico, as well as several other smaller communities.

The Rio Grande follows a well-defined geologic feature called the Rio Grande graben. The Rio Grande graben contains several thousand feet of poorly consolidated sediment of the Santa Fe Group of the middle Miocene to Pleistocene age.

The terrain in the area is characterized by gently sloping plains from the east to the Rio Grande ranging from about 4,860 feet to 4,875 feet in elevation. Water tables are typically several feet in depth and permeability is moderate (USDA 2006). The general soil conditions are deep, nearly level, well-drained soils that are formed in recent alluvium, on flood plains of the Rio Grande.

The major soil series that occur within the proposed planning area are described below. The information in this section was obtained from the soil survey for Bernalillo County (USDA 2006).

Agua Series

The Agua series consists of deep, well-drained soils that are forming in recent alluvium on the flood plain along the Rio Grande. Slopes are 0 to 1 percent. Agua soils are mainly associated with Brazito, Gila, and Vinton soils. In a representative profile, the surface layer is light brown loam about 10 inches thick. Next is about 14 inches of brown loam and pink very fine sandy loam. Below this to a depth of 60 inches or more is very pale brown fine sand. The soil is moderately alkaline throughout. Permeability is moderate to a depth of about 24 inches and rapid below.

Gila Series

The Gila series consists of deep, well-drained soils that are forming in recent alluvium on the flood plains along the Rio Grande and Rio Puerco. Slopes are 0 to 2 percent. Gila soils are associated with Agua, Anapra, Hantz, Vinton, and Brazito soils. In a representative profile the surface layer is brown loam about 7 inches thick. Next is about 37 inches of stratified brown and light yellowish brown very fine sandy loam and sandy loam. Below this to a depth of 60 inches or more is pale brown sand. The soil is moderately alkaline throughout. Permeability is moderate.

Vinton Series

The Vinton series consists of deep, well-drained soils that form in recent alluvium on the flood plains of the Rio Grande. Slopes are 0 to 3 percent. Vinton soils are associated with Brazito, Bluepoint, Agua, and Gila soils. In a representative profile, the surface layer is brown sandy loam and pinkish gray loamy sand and pinkish gray very fine sand. The soil is moderately alkaline throughout. Permeability is moderately rapid.

Erosion to soil at the west bank of the river would be reduced by using an existing channel to transport the water from the outlet pipe into the Rio Grande.

3.1.2 Climate

The climate in the vicinity of the proposed project is classified as arid (USDA 2006). The temperature occasionally reaches 100 degrees F or falls to zero or below, but not in all years. The average annual precipitation ranges from seven to ten inches. Although an average of only one day a year has more than half-inch of precipitation, these infrequent, brief, heavy showers may bring one to one-half of rain, except in the dry winter season. Occasionally, hail accompanies summer thunderstorms. The average annual snowfall is less than five inches and snowfall seldom exceeds one or two inches and generally melts in a few hours (USDA 2006). The growing season is about five and a half months long. The last freeze date in spring is May 8, and the first freeze date in fall is October 12 (USDA 2006). Relative humidity averages less than 50 percent and generally less than 20 percent on hot sunny afternoons. In winter the prevailing winds are northerly and in summer the prevailing winds are southerly. Wind speed averages nearly ten miles per hour for the year. There would be no effect to climate by the proposed project.

3.1.3 Water Quality

Section 402 of the Clean Water Act (CWA; 33 U.S.C. 1251 *et seq*.) as amended,

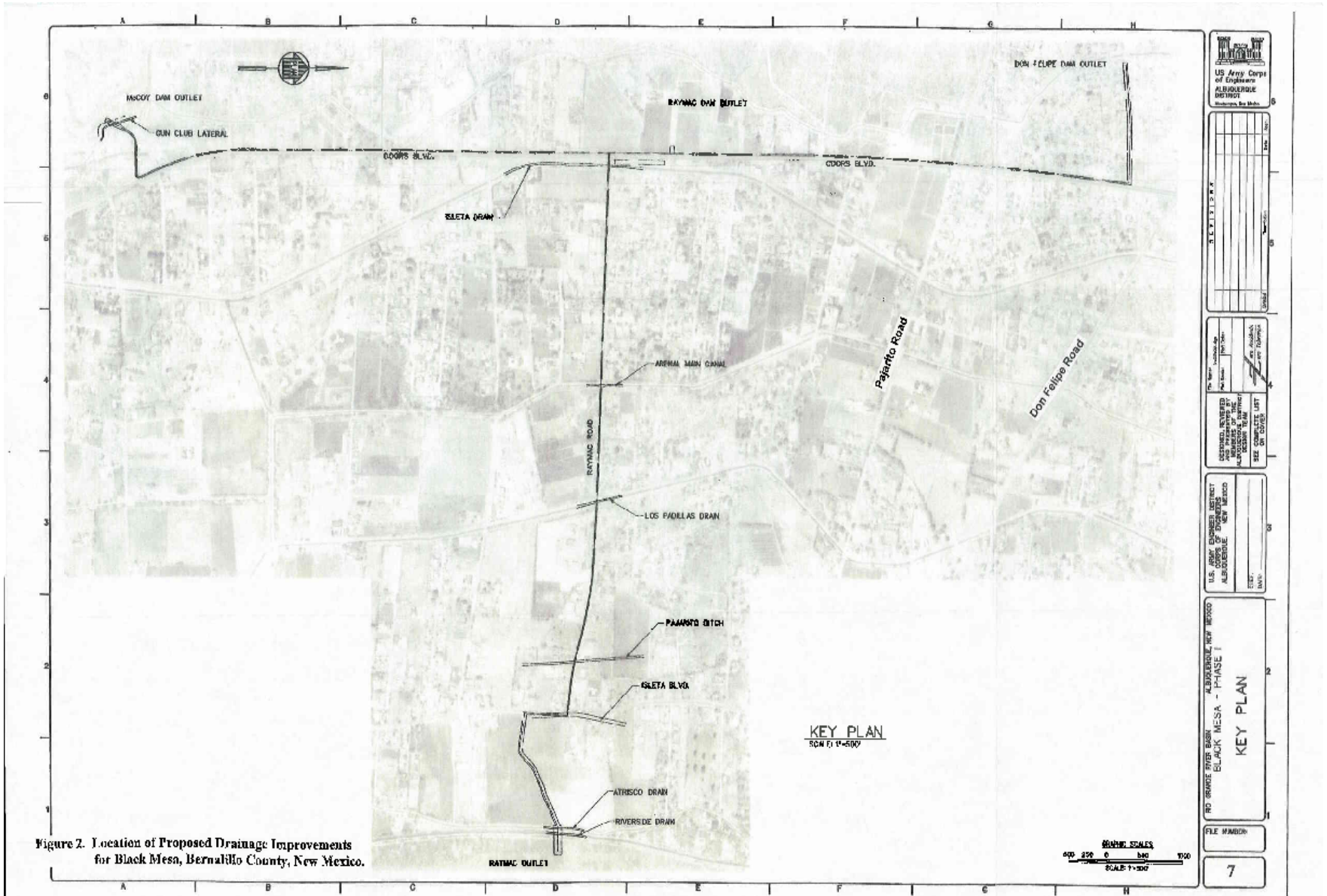

Figure 2. Location of Proposed Drainage Improvements for Black Mesa, Bernalillo County, New Mexico.

regulates point-source discharges of pollutants into waters of the United States and specifies that storm-water discharges associated with construction activities shall be conducted under NPDES guidance. Construction activities associated with storm-water discharges are often characterized by activities such as clearing, grading, and excavation, subjecting the underlying soils to erosion by stormwater. The NPDES general permit guidance will apply to this project because the total project area is greater than one acre. Therefore, a Storm-Water Pollution Prevention Plan (SWPPP) is required and would be prepared by the contractor for this project. Impacts from storm-water are expected to be negligible.

Section 404 of the CWA, (CWA; 33 U.S.C. 1251 *et seq.*) as amended, provides for the protection of waters of the United States through regulation of the discharge of dredged or fill material. The Corps' Regulatory Program (33 CFR Parts 320-330) requires that a Section 404 evaluation be conducted for all proposed construction that may affect waters of the United States. There are several areas within the project site where the stormwater pipeline are located within waters of the United States. These areas include: San Felipe Dam outlet channel; the Isleta, Los Padillas, Atrisco and Riverside Drains; and the Arenal Main Canal. These areas are regulated under provisions of Section 404 of the Clean Water Act. The installation of the stormwater pipeline in these waters may be authorized under a Nationwide Permit No. 12 for Utility Line Activities. A Nationwide Permit will be obtained prior to the proposed construction.

Proposed removal and restoration of the culverts at the Isleta, Los Padillas, Atrisco and Riverside Drains, and Arenal Main Canal are exempt from regulation under exemption No. 3 for construction or maintenance of farm or stock ponds or irrigation ditches and a Department of the Army permit would not be required.

Section 401 of the CWA, (CEA; 33 U.S.C. 1251 *et seq.*) as amended, requires that a Water Quality Certification Permit be obtained for anticipated discharges associated with construction activities or other disturbance within waterways. Section 401 of the CWA does apply to this project, as there would be discharge associated with construction activities or other disturbance within waterways. A Water Quality Certification Permit would be obtained prior to any proposed work.

3.1.4 Flood Plains and Wetlands

Executive Order 11988 (Flood Plain Management) provides Federal guidance for activities within the flood plains of inland and coastal waters. The order requires Federal agencies to take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains. The majority of the proposed project area is not located within any special flood hazard areas inundated by the 100-year flood. It is located in Zone X of the floodplain map, which is designated as areas that are outside the 100-year flood (Flood Insurance Rate Map 2003). However, the proposed location for the outlet pipe lies within the Bosque, which is within the flood plain. The outlet structure would consist of a 32' x 16' concrete pad with five feet of 60-inch RCP coming from the ground. The outlet structure is minor in size and would not constitute any alterations within the historical flood plain and would have no new impacts to the historical or current flood plains. The proposed project would help to improve stormwater drainage within the project area.

Executive Order 11990 (Protection of Wetlands) requires the avoidance, to the greatest extent possible, of both long and short-term impacts associated with the destruction, modification, or other disturbance of wetland habitats. Wetlands exist within the riparian area that is adjacent to the river; however none exist within or near the project area. Therefore, no impacts to wetlands would occur. Although most of the water that would be dispersed from the outlet pipe would be directed towards the river, some of the water may create wet areas within the riparian zone.

3.1.5 Air Quality, Noise, and Aesthetics

The Southwest Valley of Bernalillo County is in New Mexico's Air Quality Control Region No.2 for air quality monitoring and Bernalillo County is "in attainment" (does not exceed State and Federal Environmental Protection Agency air quality standards) for all criteria pollutants (NMED/AQB 2005). Air quality in the project area is generally good. The closest Class I area is Bosque del Apache National Wildlife Refuge, approximately 90 kilometers (57 miles) to the south of the project area. Class I areas are special areas of natural wonder and scenic beauty, such as national parks, national monuments, and wilderness areas, where air quality should be given special protection. Class I areas are subject to maximum limits on air quality degradation.

The proposed project would result in a temporary but negligible increase in suspended dust particles from construction activities. Equipment with water sprinklers would be used during construction to minimize dust. A Fugitive Dust Control Permit is needed when there is surface disturbance to three-quarters of an acre or more. An approved permit form the Bernalillo County Office of Environmental Health would be obtained prior to construction for this project. Air quality in the Southwest Valley, Bernalillo County and the National Wildlife Refuge would not be affected by the proposed project or by the no-action alternative.

Background noise levels in the proposed project area are relatively low. According to the Noise Center for the League for the Hard of Hearing (League for the Hard of Hearing, 2004), a typical, quiet residential area has a noise level of 40 decibels. A residential area near heavy traffic has a noise level of 85 decibels. Heavy machinery has a noise level of 120 decibels. During construction, noise would temporarily increase in the vicinity during vehicle and equipment operation. The Noise Center advises that noise levels above 85 decibels will harm hearing over time and noise levels above 140 decibels can cause damage to hearing after just on exposure. However, the increase in noise during construction would be minor and temporary, ending when construction is complete. Therefore, the proposed project would have no significant affect on noise.

The project area is characterized by both urban and rural lifestyles. Aesthetically, the area consists of residential sections, farmland, streets, etc. The area receives minimal recreation use with the intent of viewing scenery. Most of the proposed construction takes place along previously developed areas. The outlet pipe manifold and the outlet pipe to the river would be placed underground, and therefore would not be visible. The proposed project would have no significant affect on existing aesthetic conditions.

3.2 Biological Resources

3.2.1 Vegetation Communities

This area is typical of the Rio Grande Valley, which includes agricultural areas and development encroaching on irrigated cropland. The crops consist predominantly of corn, hay, and alfalfa. The potential in this area for wildlife and endangered species is minimal due to the soil conditions and the development. The outlet pipe manifold and outlet pipes would be located mostly underground or in well-developed areas where little wildlife exists. A site visit on 8 October 2003 by Corps personnel observed vegetation consisting of Kochia (*Kochia scoparia*), Purple aster (*Machaeranthera canescens*), Hairy goldenaster (*Heterotheca villosa*), Punctureveine (*Tribulus terrestris*), Gray rabbitbush (*Chrysothamnus nauseosus*), Silverleaf nightshade (*Solanum elaeagnifolium*), Russian thistle (*Salsola iberica*), Spreading dogbane (*Apocynum androsaemifolium*), Common ragweed (*Ambrosia artemisiifolia*), Horseweed (*Conyza canadensis*), Corn gromwell (*Lithospermum arvense*), Flixweed (*Descurainia sophia*), Tall fescue (*Festuca arundinacea*), Witchgrass (*Panicum capillare*), Sand dropseed (*Sporobolus cryptandrus*), Oldfield threeawn (*Aristida oligantha*), Indian ricegrass (*Oryzopsis hymenoides*).

The proposed location for the outlet pipe lies within the Bosque. This location was chosen by Corps personnel because it is located within an open area, where little vegetation exists. Vegetation typical of the Bosque includes the following: Rio Grande cottonwood (*Populus deltoides* var. *wislizenii*), Siberian elm (*Ulmus pumila*), salt cedar (*Tamarix spp.*), Russian olive (*Elaeagnus angustifolia*), coyote willow (*Salix exigua*) and Tree of Heaven (*Ailanthus altissima*). The proposed outlet pipe to the Bosque can be expected to flow any time rain or snow falls in the drainage basins above the three existing AMAFCA dams. This would primarily occur during summer rains in July, August and early September. The outlet pipe could be expected to flow multiple times each year at varied flow rates and durations depending on the volume of water produced by the storms. The increase of water from the outlet pipe is expected to benefit the vegetation within the Bosque.

3.2.2 Wildlife

Wildlife species in the adjacent riparian areas are typical for the Middle Rio Grande Valley. Neotropical migrants and resident avian species frequent the area and live within the Bosque. These species would include: Cooper's Hawk (*Accipiter cooperii*), Red-tailed Hawk (*Buteo jamaicensis*), Great-horned Owl (*Bubo virginianus*), Turkey Vulture (*Cathartes aura*), Greater Roadrunner (*Geococcyx californianus*), Downy Woodpecker (*Picoides pubescens*), Belted Kingfisher (*Ceryle alcyon*), White-crowned Sparrow (*Zonotrichia leucophrys*), American Crow (Corvus brachyrhynchos), White-breasted Nuthatch (*Sitta carolinensis*), Summer Tanager (*Piranga rubra*), Black-headed Grosbeak (*Pheucticus melanocephalus*), House Finch (*Carpodacus mexicanus*), American Robin (*Turdus migratorius*), Black-crowned Night Heron (*Nycticorax nycticorax*), Black-chinned Hummingbird (*Archilochus alexandri*), Rufous Hummingbird (*Selasphorus rufus*), Pied-billed Grebe (*Podilymbus podiceps*), Common Merganser (*Mergus merganser*), Canada Goose (*Branta canadensis*), and various waterfowl (Anas *spp*., Aythya *spp*., *Aix sponsa*). In addition, various mammals and reptiles such as mice, rabbits, skunks, coyote and lizards, also inhabit and transit the project area.

3.2.3 Special Status Species

Three agencies have primary responsibility for protecting and conserving plant and animal species within the proposed project area. The United States Fish and Wildlife Service (USFWS), under authority of the Endangered Species Act of 1973 (16 U.S.C. 1531), as amended, has the responsibility for Federal listed species. The New Mexico Department of Game and Fish (NMDGF) has the responsibility for state-listed wildlife species. The New Mexico State Forestry Division (Energy, Minerals, and Natural Resources Department) has the responsibility for state-listed plant species. Each agency maintains a continually updated list of species that are classified, or are candidates for classification, as protected based on their present status and potential threats to future survival and recruitment into viable breeding populations. These types of status rankings represent an expression of threat level to a given species survival as a whole and/or within local or discrete populations. Special status species that potentially occur in Bernalillo County and may occur near the proposed project area are listed in Table 1.

Special status animal species listed by USFWS (USFWS 2002) and New Mexico Department of Game and Fish for Bernalillo County (NMDGF 2002) that might occur in or near the project area but are not anticipated to occur include the following:

The American Peregrine Falcon is a Federally delisted species with an approved recovery plan, and a State threatened species. The peregrine falcon may fly over the construction area during spring and fall migrations. The peregrine prefers breeding habitat that is in isolated wooded areas with cliffs that create “gulfs” of air in which the peregrine may forage. The Peregrine’s preferred wooded-forested habitat does not occur in or near the project area. Due to the ease of mobility of the peregrine and the limited disturbance of the proposed project, there would be no effect to the American Peregrine Falcon.

Baird’s Sparrow, a State Threatened species, favors shrubby short-grass habitats. The sparrow is a migrant to New Mexico, occurring mainly in autumn primarily in the eastern plains and southern lowlands, but is considered rare to uncommon and a vagrant. The sparrow may fly over the construction area during migration; however, due to the ease of mobility and the limited disturbance of the proposed project, there would be no effect to Baird’s sparrow.

The Black-footed Ferret, a Federal listed Endangered species, prefers mixed shrub habitat. The distribution of the Black-footed Ferret is closely sympatric with that of prairie dogs and all viable breeding populations have been associated with prairie dog colonies, which they use for food and shelter. There were no prairie dog towns observed at or near the proposed project area during the site visit. Most of the project area occurs within previously developed or disturbed land. Due to lack of preferred habitat and no presence of prairie dog towns, there would be no effect to this species by the proposed project.

The Bald Eagle, a Federal and State Threatened species, is normally found near major waterways and larger lakes where adequate food supplies may be found. The Bald Eagle is known to occur in New Mexico primarily during the late fall and winter months. The Bald Eagle utilized large trees for perching and forages primarily for fish, ducks, and carrion along river and

Table 1. Special Status Species Listed for Bernalillo County, New Mexico, that have the Potential to Occur in the Vicinity of the Proposed Project Area.

Common Name	Scientific Name	Federal Status (USFWS)[a]	State of New Mexico status (NMDGF)[b]
Animals			
Bald Eagle	*Haliaeetus leucocephalus*	T	T
Black-footed Ferret	*Mustela nigripes*	E	---
Mexican Spotted Owl	*Strix occidentalis lucida*	T	---
Rio Grande Silvery Minnow	*Hybognathus amarus*	E	E
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E	E
Whooping Crane	*Grus Americana*	E	E
Mountain Plover	*Charadrius montanus*	---	---
Neotropic Cormorant	*Phalacocorax brasilianus*	---	T
Common Black-Hawk	*Buteogallus anthracinus anthracinus*	---	T
Brown Pelican	*Pelecanus occidentalis carolinensis*	---	E
Aplomado Falcon	*Falco femoralis septentrionalis*	E	E
American Peregrine Falcon	*Falco peregrinus anatum*	---	T
White-eared Hummingbird	*Hylocharis leucotis borealis*	---	T
Bell's Vireo	*Vireo bellii*	---	T
Gray Vireo	*Vireo vicinior*	---	T
Baird's Sparrow	*Ammodramus bairdii*	---	T
Spotted Bat	*Euderma maculatum*	---	T
New Mexican Jumping Mouse	*Zapus hudsonius luteus*	---	T
Plants			
Santa Fe Milkvetch	*Astragalus feensis*	---	R
La Jolla Prairie Clover	*Dalea scariosa*	---	R
Sapello Canyon Larkspur	*Delphinium sapellonis*	---	R
Sandia Alumroot	*Heuchera pulchella*	---	R
Plank's Campion	*Silene plankii*	---	R

[a] **Endangered Species Act (ESA)** (as prepared by U.S. Fish and Wildlife Services) **status:** Only Endangered and Threatened species are protected by the ESA.
E= Endangered: any species that is in danger of extinction throughout all or a significant portion of its range.
T= Threatened: any species that is likely to become and endangered species within the foreseeable future throughout all or a significant portion of its range.

[b] **State of New Mexico status:**
E= Endangered Animal species whose prospects of survival or recruitment within the state are in jeopardy.
T= Threatened Animal species whose prospects of survival or recruitment within the state are likely to become jeopardized in the foreseeable future.
R=Rare

at local reservoirs. Although the preferred habitat of the Bald Eagle is not present at the project site, the Bald Eagle may fly over the construction area.

To minimize the potential for disturbing Bald Eagles that may be present during construction, efforts would be made to schedule all work outside of the Bald Eagle high use months of December, January, and February. The following protocol will be followed and included in all construction contracts, "If a Bald Eagle is present within 0.25 mile of the construction sites in the morning before project activity starts, or following breaks in work, the contractor would be required to suspend all activity until the bird leaves of its own volition, or a Corps biologist, in consultation with the U.S. Fish and Wildlife Service, determines that the potential for harassment is minimal. However, if an Eagle arrives during construction activities, or if an Eagle is beyond 0.25 mile from the site, construction would not be interrupted. If Bald Eagles are found consistently in the immediate project areas during the construction period, the Corps will contact the U.S. Fish and Wildlife Service to determine whether formal consultation under the Endangered Species Act is necessary". Therefore, the determination has been made that the proposed project "may affect, is not likely to adversely affect" the Bald Eagle.

The Mountain Plover, a Federal listed Threatened species, occurs in short-grass prairies, usually associated with prairie dog towns. There were no prairie dog towns observed at or near the proposed project area during the site visit. Most of the project area occurs within previously developed or disturbed land. Due to lack of preferred habitat and no presence of prairie dog towns at or near the proposed project site, there would be no effect to this species by the proposed project.

The Southwestern Willow Flycatcher, a Federal and State Endangered species, occurs in riparian habitats along rivers, streams, or other wetlands, where dense growths of willows, Baccharis, arrowweed, tamarisk or other plants are present, often with a scattered overstory of cottonwood (NMDGF 2006). Although the above vegetation exists within the Bosque, the proposed outlet pipe would occur within an open area, where little to no vegetation exists. The additional water provided by the outlet pipe would be beneficial to the vegetation within this area and could produce more habitat for the Southwestern Willow Flycatcher. Beneficial impacts to the above species are expected from the proposed project.

The Rio Grande Silvery Minnow, a Federal and State Endangered species, was designated 157 river miles as critical habitat. The middle reach of the Rio Grande, from Cochiti Dam to the utility line in Socorro County (marked on the USGS Paraje Well 7.5 minute quadrangle (1980)), is considered crucial habitat to the fish's survival. The proposed outlet structure would be located within the Bosque, adjacent to this part of the Rio Grande. When storms produce enough water to flow from the outlet pipe, this water will enter the Rio Grande. Currently, stormwater also enters the Rio Grande, just further downstream. It would be beneficial to the Rio Grande Silvery Minnow to return stormwater to the Rio Grande further upstream than the current discharge point. Only beneficial impacts to the above species are expected from the proposed project.

The Whooping Crane (*Grus americana*) was listed as endangered with critical habitat by the U.S. Fish and Wildlife Service in 1978 (43 FR 20938) due to the destruction of wintering and

breeding habitat, hunting, collisions with power lines and fences, specimen collecting and other human disturbance. The bird once ranged over most of North America, but probably never occurred in large numbers. By the 19th century, only a few thousand birds survived. Whooping Cranes were not sighted in New Mexico after 1938 until an experimental reintroduction was initiated in 1975.

The Middle Rio Grande was the wintering area of the experimental Rocky Mountain population. Within the Bosque del Apache National Wildlife Refuge, all areas at or below 4,600 feet in elevation have been designated critical habitat for the whooping crane. This designation includes most of the floodplain including the riverine and riparian zone. During the winter months, Whooping Cranes will use sandbars in the Rio Grande near the refuge and isolated areas outside the refuge for night roosting.

Since there are no longer any birds in the experimental Rocky Mountain Population in the Middle Rio Grande, the proposed work would have no effect on the Whooping Crane.

The State species list indicates that there are five status plants species that occur in Bernalillo County, the Santa Fe milkvetch (*Astragalus feenis*), La Jolla prairie clover (*Dalea scariosa*), Sapello Canyon larkspur (*Delphinium sapellonis*), Sandia alumroot (*Heuchera pulchella*), and Plank's campion (*Silene plankii*). They are each listed by the State of New Mexico Division of Forestry as an endangered plant on the New Mexico Rare Plants Technical Council 2002 Website (http://nmrareplants.unm.edu/). Although these plants are known to occur in Bernalillo County, they are not likely to occur within the project area. The preferred habitat of two of these plants, Sandia alumroot and Plank's campion, is limestone cliffs and igneous cliffs, respectfully. Santa Fe milkvetch is known to occur on sandy benches and gravelly hillsides in piñon-juniper woodland or plains-mesa grassland. The Sapello Canyon larkspur is often associated with canyon bottoms and aspen groves in lower and upper montane coniferous forest. The La Jolla prairie clover's preferred habitat is open sandy clay banks and bluffs, often along roadsides. Although the construction work would take place along roads sides, the La Jolla prairie clover was not seen during the Corps site visit on October 8, 2003. Most of the vegetation that exists within the street rights-of-way is disturbed. All other preferred habitat mentioned above is not located within the project area, and therefore there would be no effect to these endangered plants.

3.3 Cultural Resources

Portions of the following cultural resources text have been adapted from (Everhart 2004b:15). Prior to the arrival of the Spaniards in the Southwest, there were many American Indian Tribes had occupied numerous pueblos in the Albuquerque area, some for hundreds of years. Numerous archaeological investigations have been conducted and histories written regarding the long human occupation of the Albuquerque area. The local environment and culture history have been extensively documented in numerous other references, overviews, and reports; therefore, the information is not duplicated here. Some general archaeological and historic references and overviews include: Ackerly *et al*. (1997), Biebel (1986), Cordell (1979), Crawford *et al*. (1993), Holmes (1998), Judge (1973), Kelley (1974), Ortiz (1979, 1983), Marshall and Marshall (1990), Polk *et al*. (1999), Poore and Montgomery (1987), Sargeant and Davis (1986), Schmader (1990, 1994), Scurlock (1998, 1982), Simmons *et al*. (1989), Simmons

(1982), and Wozniak (1987). Several accessible references on the local environment and general aspects of the area include Scurlock (1998), Finch and Tainter (1995), Robert (2005), Crawford *et al*. (1993), Williams (1986), and Bauer *et al*. (2003) as well as the original planning document for the Rio Grande Valley State Park (Chambers and Campbell 1969).

Most of the recent archaeological work in the Albuquerque area has primarily been associated with cultural resources compliance and management requirements, and for specific projects such as highway construction and maintenance and the installation of utility lines. A general history on Middle Rio Grande Flood Protection Projects between Corrales and San Marcial was prepared by Berry and Lewis (1997). Information regarding the history of U.S. Army Corps of Engineers' Albuquerque District and local flood control projects is found in Welsh (1985, 1997). The Ackerly *et al*. (1997) and Wozniak (1987) reports, prepared for the Bureau of Reclamation and the New Mexico Historic Preservation Division provide significant overviews regarding the development of the Middle Rio Grande valley and both include a substantial list of references. Burkholder (1928) provides information regarding the initial flood control, drainage, and irrigation work by the Middle Rio Grande Conservancy District.

Generally, very few cultural resources surveys have been conducted within the riverine/bosque areas between the Rio Grande flood control levees in the Albuquerque area. Two recent survey reports for bosque habitat restoration projects include Everhart (2004a) and M. Marshall (2003[b]) and one report for Corrales flood control levee rehabilitation and an addendum is by Kneebone (1993) and Kneebone and Everhart (1997), respectively. Recent surveys conducted for the Corps for the Bosque Wildfire Project included Estes (2005) and Everhart (2004b, c, d, and e).

The project area, located in what is now known as Albuquerque's South Valley, is a grown conglomeration of several historic Hispanic communities including Atrisco, Armijo, Barelas, Arenal, Pajarito, and Los Padillas that date to Spanish Colonial times. A few of these communities are derived from early haciendias or ranchos that date prior to the Pueblo Revolt of 1680 and that were reestablished after the Revolt (Simmons 1982; Sánchez 1998). The project area lies within the historic Pajarito Land Grant that dates prior to 1746 and that was confirmed by Congress in 1894 and patented in 1914 (GAO 2001:14, 26). Immediately to the north of the project area, the Town of Atrisco Community Land Grant dates to 1692 and was also confirmed by Congress in 1894 and was patented in 1905 (GAO 2001:9, 22).

One historical account of the Southwest that includes local information regarding the communities of Atrisco, Barelas (Varelas), Pajarito, Albuquerque, and nearby Isleta Pueblo is the 1776 account by Fray Dominguez, translated and annotated by Adams and Chavez (1956:145-154, 202-208, 253-254). A subsequent reference on New Mexico's missions is Kessell (1980). Other references that generally cover the local project area include Ayers (1965), Kessell (2002), Sánchez (1996, 1998), Weber (1992), and Riley (1995). Brief, modern descriptions of the South Valley and its history and nearby Isleta Pueblo are provided in Chilton *et al*. (1984:261-264) and Fugate and Fugate (1989:84-96) as well as in the listings for Arenal, Atrisco, Barelas, Isleta Pueblo, Los Padillas, and Pajarito provided in Julyan (1996:21, 24-25, 30, 174, 210, 255, respectively).

Early archaeological documentation in the project vicinity include reports and notes by

Bandelier (1892) and H. P. Mera (1940, and numerous other reports), and one of the earliest archaeological surveys that included the South Valley was conducted by Fisher (1931). More recently, Marshall and Marshall (1990) conducted a survey of the irrigation and drainage system managed by the Middle Rio Grande Conservancy District. This survey of acequia (irrigation canals and primary ditches) and drainage ditch alignments covered an area from Bernalillo south to Isleta Pueblo and was conducted for the Bureau of Reclamation. In the project area, Marshall and Marshall (1990) surveyed the Gun Club Lateral, the Isleta Drain, the Arenal Main Canal, the Los Padillas Drain, the Pajarito Ditch, the Los Padillas Acequia (Feeder)/Ditch, and the Atrisco Riverside Drain. Archaeological surveys along or adjacent to the S. Coors Blvd. and Raymac Road alignments include Condie (2001), Parker *et al*. (2005), Rodgers (1979), Berry (1997a), Johnson and Kemrer (1994), Mumford (1997), Bertram *et al*. (1989), and Marshall (1993a, 2003a). A recent survey north of the current project area conducted for the Corps of Engineers for another flood drainage investigation was conducted by Vaughan and Chapman (2004). Other recent surveys in the South Valley include those by Taschek Environmental Consulting: K. Parker (2005), N. Parker (2005), Parker *et al*. (2005a, 2005b), and Hurt *et al*. (2005).

Prior to the cultural resources survey of the project area, the Corps conducted a literature review and searches of the New Mexico Historic Preservation Division's Archaeological Records Management Section (ARMS) database and of the National Register of Historic Places and State Register of Cultural Properties for archaeological sites and historic properties that may occur in the vicinity. Cultural resources surveys of the project area were conducted by Corps' archaeologists in 2003 and 2006, covering a total of approximately 10.4 hectares (25.6 acres). During the cultural resources survey, eleven isolated occurrences that include prehistoric sherds and historic artifacts and trash were documented; these IO's are not likely to provide additional significant information. IO's No. 1, 2, 7, 8, and 11 will be affected by the project; however, they are all located in disturbed areas and no longer retain their provenience. IO's No. 3, 4, 5, 6, 9, and 10 would not be affected by the project.

The ARMS database search found that five archaeological sites, LA723, LA19244, LA50273, LA74755, and LA145560, occur in proximity to the project area. The first four archaeological sites are prehistoric Puebloan ruins; LA723 (Pueblo Pajarito, a Late Pueblo III to Early Pueblo IV period ruin [ca. A.D. 1200 to 1400]), LA19244 (a Pueblo III period pueblo ruin [ca. A.D. 1100 to 1300]), LA50273 (Pueblo los Padillas, a Coalition period ruin [ca. A.D. 1200 to 1325]), and LA74755 (a Pueblo III period pueblo ruin [ca. A.D. 1100 to 1300]). LA145560, a historic earthen ditch/structure, is an abandoned segment of the Los Padillas Acequia/Drain.

It was subsequently determined that LA723 was of sufficient distance from the project area that it would not be affected by the project. During the field survey, Corps' archaeologists verified the locations of LA50273 and LA74755 in relation to the project area; surface artifacts were observed adjacent to the project area at both sites. No artifacts or cultural resources manifestations were observed in the project area near LA19244 although it is reported to be adjacent to S. Coors Blvd. Since these three archaeological sites are located or are reported to occur adjacent to the project area, the Corps will contract for archaeological monitoring during construction in the project areas adjacent to these archaeological sites. All three of these archaeological sites have been disturbed to some extent in the past. It is anticipated that the pipeline project would have no adverse effect to LA19244, LA50273, and LA74755. While

LA145560 is within the project area, located in the Rio Grande bosque, it has been previously disturbed and subjected to flooding, and is in a deflated condition. It is anticipated that the pipeline project would have no adverse effect to LA145560. The Corps does not plan to conduct monitoring at LA145560 during construction.

The proposed pipeline project crosses several segments of the Middle Rio Grande Conservancy District's irrigation ditch and drain system. Some of the historic acequias in the project area may date to the 1700s. The acequias were organized into components of the MRGCD system and with the valleys' flood control levees were initially constructed and/or reconfigured in the 1930s and portions of these adjacent to the Rio Grande were extensively rehabilitated in the 1950s and 1960s by the U.S. Bureau of Reclamation and the U.S. Army Corps of Engineers. While the irrigation/drain system is considered to be historic, the acequia ditches/canals and drains and associated structures have been maintained and in many cases extensively rehabilitated in the past. The proposed pipeline will cross a small portion of previously disturbed areas of these ditches/drains and may affect the existing modern culverts at the Gun Club Lateral, Isleta Drain, Arenal Main Canal, Los Padillas Drain, Pajarito Ditch, the Los Padillas Ditch, and the Atrisco Riverside Drain as well as the flood control levee. No historic MRGCD structures would be affected. These proposed crossing excvations are considered to have a negligible, and therefore, no adverse effect to these ditches/drains culvert and levee structures.

American Indian Tribes that have indicated they have cultural concerns in Bernalillo County have been contacted; no cultural resources concerns have been brought to the attention of the Corps and no traditional cultural properties are known to occur in the immediate vicinity of the project area. No other artifacts, new archaeological sites, historic properties, nor other cultural resources manifestations were observed during the cultural resources survey.

While the South Valley is rapidly becoming urbanized, it still has a unique character and retains a historic feeling and aesthetic quality. Although it is beyond the scope of this project, upon further investigation the South Valley with its old, narrow, and in some cases winding road (wagon road) alignments; small historic and largely Hispanic communities, churches and cemeteries; old Puebloan ruins; winding acequias and small agricultural fields; may generally be considered to be potentially eligible for nomination to the National Register of Historic Places as a rural historic landscape. The proposed project would have no effect to the local landscape.

Therefore, the Corps is of the opinion that there will be "No Adverse Effect to Historic Properties" by construction of the Black Mesa Section 593 surface water drainage pipeline project. The project's cultural resources survey report is documented in the New Mexico Cultural Resources Information System (NMCRIS) under No. 99706. Documentation regarding cultural resources compliance activities is documented in Appendix B.

3.4 Hazardous, Toxic and Radioactive Wastes

Review of the draft Black Mesa–Phase I construction plans indicate that there are concerns regarding the presence of asbestos cement pipe, also know as transite pipe. However, conversations with the various managers and engineers on the Project Delivery Team indicate that the presence of existing transite pipe has not been verified, and that the reference was

precautionary in nature. In any event, the intent of the engineers is to circumvent existing utilities rather than remove asbestos materials, if possible. In the event that asbestos-containing materials are encountered, the contractor would be required to immediately notify the Contracting Officer, and specifications for addressing asbestos concerns would be developed at that time.

Solid, hazardous or special wastes encountered or generated at the project site as a result of site activities would be handled in accordance with State of New Mexico regulations and guidelines.

3.5 Land Use and Socioeconomic Considerations

The Black Mesa project area is located within the Los Padillas community, which is considered the southern most community in the Southwest Valley. The Southwest Valley makes up more than one third of the greater Albuquerque Metropolitan area. The total population of Albuquerque, New Mexico in 2002 was estimated to be 737,324. Within the community of Los Padillas, the ethnic background is: Hispanic, 76.9%; White, 16.4%; Native American, 4.9%; African American, 0.2%; and Other, 0.4%. The annual average wage/salary per job was $38,788 (U.S. Department of Commerce, Bureau of Economic, 2002). The unemployment rate for Bernalillo County in 2002 was 5.1% (New Mexico Department of Labor, 2004). Within the Los Padillas community, farming is still a major land use. Small truck farms grow chile, corn, squash, tomatoes and fruit. Alfalfa is a main crop. Dairies and feedlots are also present. There is limited grazing, which is usually confined to families raising 1 or 2 of cattle for their own use.

The proposed project mostly occurs within previously developed or disturbed land. Pipes used to collect stormwater flows would be placed in areas adjacent to the three existing dams, or along street rights-of way. The outlet pipe to the river would be placed under the riverside drain. Property adjacent to the project area includes residential and mobile homes, streets, farmland, and three existing dams. The proposed project would not affect land use or socioeconomic resources in the project area.

3.6 Environmental Justice

Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority and Low-Income Populations; February 11, 1994) was designed to focus the attention of Federal Agencies on the human health and environmental conditions of minority and low-income communities. It requires Federal agencies to adopt strategies to address environmental justice concerns within the context of agency operations and proposed actions. In an accompanying memorandum, President Clinton emphasized that existing laws, such as the National Environmental Policy Act (NEPA), should provide an opportunity for federal agencies to assess the environmental hazards and socioeconomic impacts associated with any given agency action upon minority and low-income communities. In April of 1995, the EPA released a guidance document entitled *Environmental Justice Strategy: Executive Order 12898.* In short, this document defines the approaches by which the EPA will ensure that disproportionately high environmental and/or socioeconomic effects on minority and low-income communities are identified and addressed. Further, it establishes agency wide goals for all Native Americans with

regard to Environmental Justice issues and concerns.

The Black Mesa Flood Reduction Project would be conducted under Section 593 of the Water Resources Act of 1999 (Public Law 106-53; 33 U.S.C. 2201 et seq.) as amended. This program is largely intended to provide needed assistance (technical, financial, etc.) to communities in which water resources are degrading and in need of improvement. As such, this project would benefit an area within a minority and low-income community. No adverse impacts on minority and low-income populations are expected. Under the definition of Executive Order 12898, there would be no adverse environmental justice impacts under the proposed action.

3.7 Cumulative Impacts

NEPA defines cumulative effects as "…the impact on the environment which results from the incremental impact of the action when added to other, past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."

The footprint of the proposed project lies within an urban/semi-urban residential area that has little resemblance to what was present prior to urbanization. Since the construction work primarily involves the addition of an outlet pipe manifold and other outlet pipes, most environmental impacts associated with the proposed project would have occurred from previous development activities. These impacts have stabilized and have been considered the baseline against which impacts of the proposed project have been compared. Most of the proposed construction takes place along previously developed areas. The outlet pipe manifold and outlet pipes would be placed underground, and therefore would not be visible. This would not significantly impact the current conditions of the local environment. Positive stormwater drainage improvements are anticipated to occur from the proposed project that would enhance the quality of life for residents in the area. For these reasons, the proposed project when combined with past, present, or future activities in the southwest valley would not significantly add to or raise local cumulative environmental impacts to a level of significance.

Most of the proposed construction takes place along previously developed areas. The outlet pipe manifold and other outlet pipes would be placed underground, and therefore would not be visible.

Within the Albuquerque Reach of the Middle Rio Grande, a number of projects are underway to restore riparian and riverine habitat:

- Bosque Wildfire Project – Corps. Under this project the Corps has completed burn restoration, fuel reduction, exotic removal, jetty jack removal, and emergency access features such as bridges and levee repair. This project is documented in the "Environmental Assessment for the Bosque Wildfire Project, Bernalillo and Sandoval Counties, New Mexico, September 2004" (USACE, 2004).
- Middle Rio Grande Riverine Habitat Restoration Project – Interstate Stream Commission (ISC). This project is another Collaborative Program project where the ISC is restoring

aquatic habitat for the benefit of the RGSM in the river in the Albuquerque Reach by manipulating islands, bars and banks to mobilize sediments. This project constructed potential RGSM habitat on a riverine bar just south of I-40 on the east side of the river (downstream from the proposed project). This project is documented in the "Middle Rio Grande Riverine Habitat Restoration Project Environmental Assessment, March 2005" (ISC and BOR, 2005).

- Rio Grande Silvery Minnow Sanctuary – BOR. This project proposes to construct a Sanctuary near downtown Albuquerque in the bosque that would contribute to the enhancement and recovery of RGSM in the Middle Rio Grande. This project is documented in the "Rio Grande Silvery Minnow Sanctuary Environmental Assessment – DRAFT, July 2005" (BOR, 2005).
- Albuquerque BioPark Project - The Albuquerque BioPark project is a Corps 1135 Ecosystem Restoration project that consists of approximately 15 acres of pond reconstruction, 9 acres of wetland restoration, and 48 acres of riparian woodland (bosque) restoration in the bosque south of Central Ave. on the east side of the river in Albuquerque. The bosque was restored by enhancing hydrology and native vegetation. Non-native saltcedar and Russian olive were removed through brush cutting, root plowing and localized herbicide application. Project construction is complete and the wetlands are currently being planted with native vegetation.
- Middle Rio Grande Bosque Feasibility Study - The Middle Rio Grande Bosque Feasibility Study is a Study undertaken by the Corps Albuquerque District regarding the long-term restoration of the Middle Rio Grande in the Albuquerque Reach. A 905(b) Reconnaissance study was completed as well as a Supplemental Planning Document. The Feasibility Study is currently in its second year of three. Implementation would take place over a 10-year period.

Additional non-Federal efforts under the same purpose of habitat restoration are underway by the City of Albuquerque Open Space Division (OSD) in terms of thinning of dead wood and non-natives in order to prevent fires during the 2004 fire season. OSD also has an upcoming Collaborative Program project to construct potential RGSM habitat though a Draft Environmental Assessment is not currently complete. The Ciudad Soil and Water Conservation District (SWCD) has also completed some thinning at locations near the Rio Grande Nature Center, the west side of the river south of Montaño Bridge and near the National Hispanic Cultural Center.

4.0 CONCLUSION AND SUMMARY

The proposed action evaluated in this Draft EA addresses the method and potential effects for the construction of the stormwater drainage improvement system.

Due to the previously disturbed and semi-urban nature of the proposed project area, impacts to the environment would be insignificant and short-term. This proposed project would reduce flood damages in the southern portion of the Southwest Valley between Rio Bravo and Raymac Road. The proposed project would not result in any moderate or significant, short-term, long-term, or cumulative adverse effects. Therefore, construction of the proposed project would not significantly affect the quality of the human environment and is recommended for

implementation.

5.0 PREPARATION, QUALITY CONTROL, CONSULTATION AND COORDINATION

5.1 Preparation

This Draft Environmental Assessment (DEA) was prepared for the Bernalillo County and AMAFCA by theU.S. Army Corps of Engineers, Albuquerque District (USACE). Personnel primarily responsible for preparation include:

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Gregory D. Everhart	Archeologist, USACE, Albuquerque District
Danielle A. Galloway	Biologist, USACE, Albuquerque District
Paul H. Gendron	Specifications USACE, Albuquerque District
William M. Oberle	Regulatory, USACE, Albuquerque District
Carlos F. Salazar	Construction, USACE, Albuquerque District
William J. Trujillo	Construction, USACE, Albuquerque District
Richard O. Zaragoza	Structural Engineer, USACE, Albuquerque District

5.2 Quality Control

This Draft Environmental Assessment (DEA) has been reviewed for quality control purposes. Personnel who reviewed this DEA include:

William R. DeRagon	Biologist, USACE, Albuquerque District
Julie A. Hall	Supervisory Ecologist, USACE, Albuquerque District

5.3 General Consultation and Coordination

Agencies and entities contacted formally or informally in preparation of this Draft Environmental Assessment include:

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New Mexico Ecological Services Field Office

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Office of Planning and Coordination

Mr. Steve Hansen
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Mr. Don Borda
Chief, Regulatory Branch
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Mr. Subhas K. Shah
Chief Engineer
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Appendix A

Cultural Resources Consultation Letter

Appendix B
Scoping Letter